

Potassium Iodide (KI)

Recent terrorist events have many people concerned about potential future attacks using radioactive materials. Taking potassium iodide (KI) tablets after an incident involving radioactive materials may or may not limit the risk of damage to a person's thyroid gland from ionizing radiation. The Michigan Department of Community Health has prepared a fact sheet to further explain when KI might be appropriate and what people should consider before making a decision to take KI.

What is potassium iodide (KI)?

KI is a salt of iodine. It is one of several ingredients added to table salt to make it iodized. Classified as a drug approved for over-the-counter sale, KI has been determined by the U.S. Food and Drug Administration (FDA) to be a safe and effective method to block exposure to one product of a nuclear release — radioactive iodine. Radioactive iodine, either inhaled or ingested through contaminated food, milk, or water can increase the risk of developing thyroid cancer.

Will KI protect me against all types of radiation exposure?

The protection offered by KI is very site specific. It protects one organ (thyroid gland) from one type of radiation (radioactive iodine). KI will saturate the thyroid gland with iodine and help prevent it from absorbing radioactive iodine. KI will not protect other parts of the body from radioactive iodine and will not protect a person from other radioactive materials that may be released. Emergency directives such as evacuation, staying indoors, or restricting the use of contaminated food, milk, and water are designed to minimize human exposure to all types of harmful radiation that could be released in a nuclear emergency. **Taking KI is not a substitute for following emergency directives.**

How does KI work to protect the thyroid gland from radioactive iodine?

The main function of the thyroid is to create, store, and release thyroid hormones, which help regulate the body's metabolism. Most people get the iodine they need from foods like fish and iodized salt. The thyroid is designed to absorb and store iodine, but it can hold only so much, and will just as readily absorb non-radioactive KI as radioactive iodine. Because of this, one dose of KI, which is not harmful to the thyroid, works by filling the gland so it cannot take up any radioactive iodine.

Are there side effects to taking potassium iodide?

KI is a safe and medically effective drug if taken at the appropriate dosage, time, and radiation exposure conditions. Short-term use of KI at the proper dosage is safe for most people. Side effects are generally mild and may include gastrointestinal distress and rash.

Who should NOT take KI?

The high concentration of iodine in KI can be harmful to some people. People should **not** take KI if they:

- are allergic to iodine.
- have skin infections such as: dermatitis herpetiformis or hypocomplementemic vasculitis. (Both of these are extremely rare conditions, but could indicate hypersensitivity to iodine.)
- have multinodular goiter, Graves' disease, autoimmune thyroiditis, or if you are taking any thyroid medication, consult with your physician before consuming KI.
- are pregnant or could be pregnant, consult with your physician before taking KI. (Newborns or women who received KI while pregnant should seek a medical follow-up with their physician.)

I have heard some states are stockpiling KI for residents who live near nuclear power plants. What is the status of KI in Michigan?

Current policy in a nuclear power plant event includes evacuation and sheltering as public protective actions, with evacuation as the primary protective action of choice. However, Michigan does have procedures in place for using KI. For more information visit [Michigan Department of Environmental Quality -Potassium Iodide \(KI\) Issue](#).

Should I go out and buy KI to keep on hand?

KI pills purchased over the Internet or from unknown companies are of unknown quality. If KI pills are needed, local officials will notify you of how and where you can obtain them.

Additional Information:

[CDC-What People Need to Know About Potassium Iodide \(KI\)](#)

[DEQ-Potassium Iodide \(KI\) Issue](#)